



Docket No.: 12810-00136-US  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Petra Cirpus et al.

Application No.: 10/552,127

Confirmation No.: N/A

Filed: October 5, 2005

Art Unit: N/A

For:  $\Delta$ -4 DESATURASES FROM EUGLENA  
GRACILIS, EXPRESSING PLANTS, AND  
OILS CONTAINING PUFA

Examiner: Not Yet Assigned

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (IDS)**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed within three months of the U.S. filing date (37 CFR 1.97(b)(1)).

Of the documents listed on the attached SB/08 are documents cited in the International Search Report during the prosecution of international application no. PCT/EP2004/03628, which corresponds to the above referenced application, and in accordance with 37 CFR 1.97(b)(3), Applicants hereby submit these documents for the Examiner's consideration. A copy of the

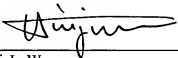
International Search Report is attached. Applicants enclose herewith a copy of each reference cited on the PTO/SB/08.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such. Moreover, Applicants understand the Examiner will make an independent evaluation of the cited documents. It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

This Information Disclosure Statement is being submitted within three months of the U.S. filing date. Accordingly, Applicants believe no fee is due with this response. However, if a fee is due, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 12810-00136-US. A duplicate copy of this paper is enclosed.

Dated: NOV. 16, 2005

Respectfully submitted,

By 

Hui-Ju Wu

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Agent for Applicant



Application No. (if known): 10/552,127

Attorney Docket No.: 12810-00136-US

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Transmittal Form (1 page)  
IDS (citation) by Applicant (38 References) (2 pages)  
Copies of 37 References  
Supplemental Information Disclosure Statement (2 pages)  
Copy of International Search Report (PCT/ISA/210) (5 pages)  
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PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b>  <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/552,127
	Filing Date	October 5, 2005
	First Named Inventor	Petra Cirpus
	Art Unit	N/A
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	12810-00136-US
Total Number of Pages in This Submission		

ENCLOSURES (Check all that apply)		
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Firm Name	CONNOLLY BOVE LODGE & HUTZ LLP		
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Date	Nov. 16, 2005	Reg. No.	57,209



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Substitutes for form 1449A/B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		Application Number	10/552,127
		Filing Date	October 5, 2005
		First Named Inventor	Thomas, et al.
		Art Unit	N/A
		Examiner Name	Not Yet Assigned
Sheet 1 of 2	Attorney Docket Number	12810-00136-US	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.†	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/E.M./	AA*	US-5,614,393	03-25-1997	Thomas et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.†	Foreign Patent Document Country Code <sup>3</sup> Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	†
/E.M./	BA	EP-0 550 162 A1	07-07-1993	Pioneer Hi-Bred International, Inc.		
	BB	EP-0 794 250 A1	09-10-1997	Soremartec S.A. & Ferrero S.p.A.		
	BC	WO-00/21557	04-20-2000	Merck & Co., Inc.		
	BD	WO-91/13972	09-19-1991	Calgene Inc.		
	BE	WO-93/06712	04-15-1993	Rhone-Poulenc Agrochimie		
	BF	WO-93/11245	06-10-1993	E.I. duPont de Nemours And Company		
	BG	WO-94/11516	05-26-1994	E. I. duPont de Nemours And Company		
	BH	WO-94/18337	08-18-1994	Monsanto Company & Michigan State University		
	BI	WO-95/18222	07-06-1995	Kirin Beer Kabushiki Kaisha		
	BJ	WO-96/21022	07-11-1996	Rhone-Poulenc Agrochimie		
	BK	WO-97/21340	06-19-1997	Cargill, Inc.		
	BL	WO-97/30582	08-28-1997	Carnegie Institution Of Washington & Monsanto Co., Inc.		
	BM	WO-98/46763	10-22-1998	Calgene LLC & Abbott Laboratories		
	BN	WO-98/46764	10-22-1998	Calgene LLC & Abbott Laboratories		
	BO	WO-98/46765	10-22-1998	Calgene LLC & Abbott Laboratories		
	BP	WO-98/46776	10-22-1998	Calgene LLC		
	BQ	WO-99/27111	06-03-1999	University of Bristol		
	BR	WO-99/64616	12-16-1999	Abbott Laboratories		
	BS	WO-02/090493	11-14-2002	Abbott Laboratories		
	BT	WO-02/26946	04-04-2002	Bioriginal Food & Science Corporation		

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Examiner Signature	/Elizabeth McElwain/	Date Considered	03/28/2008
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		Art Unit	N/A
		Examiner Name	Not Yet Assigned
Sheet	2	of	2
		Attorney Docket Number	12810-00136-US

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T*
/E.M./	CA	Barsanti, L. et al., "Fatty Acid Content in Wild Type and WZSL Mutant of <i>Euglena gracilis</i> ", <i>Journal of Applied Phycology</i> , 2000, Vol. 12, pp. 515-520.	
	CB	Horrocks, L. A. et al., "Health Benefits of Docosahexaenoic Acid (DHA)", <i>Pharmacological Research</i> , 1999, Vol. 40, No. 3, pp. 211-225.	
	CC	Huang, Y. S. et al., "Cloning of $\Delta 12$ - and $\Delta 6$ -Desaturases from <i>Mortierella alpina</i> and Recombinant Production of $\gamma$ -Linolenic Acid in <i>Saccharomyces cerevisiae</i> ", <i>Lipids</i> , 1999, Vol. 34, No. 7, pp. 649-659.	
	CD	Hunter, J. E., "Studies on Effects of Dietary Fatty Acids as Related to Their Position on Triglycerides", <i>Lipids</i> , 2001, Vol. 36, No. 7, pp. 655-668.	
	CE	Alonso, D. L. et al., "Plants as 'chemical factories' for the Production of Polyunsaturated Fatty Acids", <i>Biotechnology Advances</i> , 2000, Vol. 18, pp. 481-497.	
	CF	McKeon, T. et al., "Stearoyl-Acyl Carrier Protein Desaturase from Safflower Seeds", <i>Methods in Enzymology</i> , 1981, Vol. 71, pp. 275-281.	
	CG	Meyer, A. et al., "Biosynthesis of Docosahexaenoic Acid in <i>Euglena gracilis</i> : Biochemical and Molecular Evidence for the Involvement of a $\Delta 4$ -Fatty Acyl Group Desaturase", <i>Biochemistry</i> , 2003, Vol. 42, pp. 9779-9788.	
	CH	Pereira, S. L. et al., "Recent Advances in the Study of Fatty Acid Desaturases from Animals and Lower Eukaryotes", <i>Prostaglandins, Leukotrienes and Essential Fatty Acids</i> , 2003, Vol. 68, pp. 97-106.	
	CI	Poulos, A. "Very Long Chain Fatty Acids in Higher Animals - A Review", <i>Lipids</i> , 1995, Vol. 30, No. 1, pp. 1-14.	
	CJ	Sakuradani, E. et al., " $\Delta 6$ -Fatty Acid Desaturase from an Arachidonic Acid-Producing <i>Mortierella</i> Fungus. Gene Cloning and Its Heterologous Expression in a Fungus, <i>Aspergillus</i> ", <i>Gene</i> , 1999, Vol. 238, pp. 445-453.	
	CK	Stukey, J. E. et al., "The <i>OLE1</i> Gene of <i>Saccharomyces cerevisiae</i> Encodes the $\Delta 9$ Fatty Acid Desaturase and Can Be Functionally Replaced by the Rat Stearoyl-CoA Desaturase Gene", <i>The Journal of Biological Chemistry</i> , 1990, Vol. 265, No. 33, pp. 20144-20149.	
	CL	Voss, A. et al., "The Metabolism of 7, 10, 13, 16, 19-Docosapentaenoic Acid to 4, 7, 10, 13, 16, 19-Docosahexaenoic Acid in Rat Liver is Independent of a 4-Desaturase", <i>The Journal of Biological Chemistry</i> , 1991, Vol. 266, No. 30, pp. 19995-20000.	
	CM	Wada, H. et al., "Enhancement of Chilling Tolerance of a Cyanobacterium by Genetic Manipulation of Fatty Acid Desaturation", <i>Nature</i> , 1990, Vol. 347, pp. 200-203.	
	CN	Wallis, J. G. et al., "The $\Delta 8$ -Desaturase of <i>Euglena gracilis</i> : An Alternate Pathway for Synthesis of 20-Carbon Polyunsaturated Fatty Acids", <i>Archives of Biochemistry and Biophysics</i> , 1999, Vol. 365, No. 2, pp. 307-316.	
	CO	Wang, X. et al., "Biosynthesis and Regulation of Linolenic Acid in Higher Plants", <i>Plant Physiol. Biochem.</i> , 1988, Vol. 26, No. 6, pp. 777-792.	
	CP	Yu, R. et al., "Production of Eicosapentaenoic Acid by a Recombinant Marine Cyanobacterium, <i>Synechococcus</i> sp.", <i>Lipids</i> , 2000, Vol. 35, No. 10, pp. 1061-1064.	
	CQ	Zank, T. K. et al., "Cloning and Functional Characterisation of an Enzyme Involved in the Elongation of $\Delta 6$ -Polyunsaturated Fatty Acids from the Moss <i>Physcomitrella patens</i> ", <i>The Plant Journal</i> , 2002, Vol. 31, No. 3, pp. 255-268.	

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